

REMARKS

he above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated December 13, 2004. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due consideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1-11 are under consideration in this application. Claim 4 is being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim applicant's invention. New claims 10-11 are being added to recite other embodiments described in the specification.

The claims are being amended to correct formal errors and/or to better recite or describe the features of the present invention as claimed. All the amendments are supported by the specification. Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Allowable Subject Matter

Claims 2-3 and 5 - 9 would be allowable if rewritten into independent form to include all the limitations of their base claim and any intervening claims. As the claims are being rewritten into independent form to include all the limitations of their base claim and any intervening claims, they are in condition for allowance.

Prior Art Rejections

Claims 1 and 4 were rejected under 35 U.S.C. § 102(b) as being anticipated by Mohd US Patent No. 5,933,021 to Mohd (hereinafter "Mohd"). This rejection has been carefully considered, but is most respectfully traversed.

The signal crosstalk inhibition unit 10 of the invention (for example, as shown in Fig. 1), as recited in claim 1, provides a signal processing apparatus (e.g., "*applied for processing video signals to display video pictures on a TV monitor [0031]*") having a plurality of external

signal crosstalk etc., and it becomes possible to realize an efficient pattern forming step for a printed circuit board as well.

Applicants respectfully contend that Mohd fails to teach or suggest such a “signal crosstalk inhibition unit 10 making said first switching element 1 into a conductive state to connect said signal line 15 to the ground, when said connection terminal detection means 8 *does not detect said connection terminal 7a of said signal cable 7 as inserted therein*” as the invention.

In contrast, Mohd’s a noise suppression circuit detects a change of voltage level (rather than zero voltage and zero voltage change of the invention) of a signal line so as to eliminate a crosstalk, a capacitor element and a noise element arising from the interference between signal lines. When it is detected that a voltage level of a signal line increases, the noise suppression circuit determines it as a noise and then grounds the signal line to prevent the occurrence of noise. In particular, Mohd’s noise suppression pull-down circuit detects a subtle (rather than “zero”) change of voltage level of a signal line to outperform conventional noise rejection circuits and efficiently control steps for preventing the occurrence of signal crosstalk. In addition, an operation speed of Mohd’s noise suppression pull-down circuit is made faster compared with that of conventional noise rejection circuits. It is well established that a rejection based on cited references having principles that teach away from the invention is improper.

Mohd simply does not detect or have any detection circuit for detecting whether a connection terminal of a signal cable is connected to an external terminal of a signal processing apparatus as does the invention.

In addition, Mohd adopts Field Effect Transistor (FET) or MOSFET, including NMOS, PMOS and CMOS, which is much more expensive than an ordinary transistor 2 (claims 10-11), such as a bipolar transistor, adopted by the invention.

Mohd fails to teach or suggest each and every feature of the present invention as recited in independent claims 1 and 4. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

terminals 5, 6, 9 and signal lines 15, 16, 19 connected to said external terminals, by connecting a signal cable 7 to said signal processing apparatus with inserting a connection terminal 7a of said signal cable 7 into an external terminal 5, signal being inputted into a signal line 15 and/or outputting signal from said signal line 15. The signal crosstalk inhibition unit 10 has a first switching element 1 provided between said signal line 15 and the ground, and a connection terminal detection means 8 for detecting whether said connection terminal 7a of said signal cable 7 is connected to said external terminal 5 of said signal processing apparatus or not. The signal crosstalk inhibition unit 10 makes said first switching element 1 into a conductive state to connect said signal line 15 to the ground, when said connection terminal detection means 8 *does not detect said connection terminal 7a of said signal cable 7 as inserted therein*, i.e., disconnected thus zero voltage and also zero voltage change. The signal crosstalk inhibition unit 10 makes said first switching element 1 into uncondutive state when said connection terminal detection means 8 detects said connection terminal 7a of said signal cable 7.

The invention, as recited in claim 4, is directed to the signal processing apparatus provided between said signal line and the ground and having the connection terminal detection means recited in claim 1.

The signal crosstalk inhibition unit of the invention detects whether a connection terminal of a signal cable is inserted into an external terminal of a signal processing apparatus to which the signal crosstalk inhibition unit, i.e., whether a signal cable is connected or not. When it detects that the connection terminal of the signal cable is not inserted into the external terminal of the signal processing apparatus, a switching element provided between the signal line connected to the external terminal and the ground is made into conductive state, and the signal line connected to the external terminal, in which no insertion of the connection terminal is detected, is grounded. As such, a signal crosstalk between other signal lines, such as video signal line and audio signal line etc., in which signals are processed is prevented by grounding such an inactive signal line.

Consequently, it becomes possible to reduce the number of ground lines to be arranged on a printed circuit board by utilizing an inactive signal line as a ground line ([0077]), especially in such a congested area of the printed circuit board where a number of signal lines for input circuits and output circuits such as video signal line, voice signal line, ground lines for inhibiting

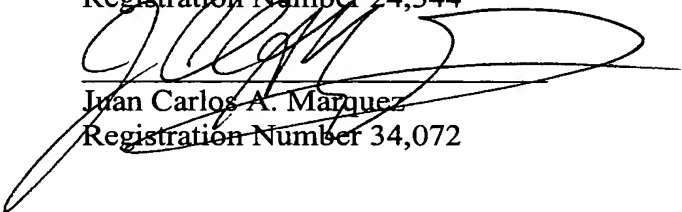
Conclusion

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

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